

A New Species of *Peritassa* Miers (Hippocrateaceae) from Southern Brazil, and Notes on Two Confused Species

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ABSTRACT. *Peritassa hatschbachii*, a new species of Hippocrateaceae from southern Brazil, is described and illustrated. In addition, comments on two other confused species, *P. calypsoideoides* and *P. mexiae*, and a key for identification of *Peritassa* species from southern Brazil are provided. A lectotype is proposed for *P. calypsoideoides*, and complete synonymy is presented.

In the initial phase of a taxonomic study of the neotropical species of Hippocrateaceae, we noticed a confused interpretation of three southern Brazilian taxa of *Peritassa*: *Peritassa calypsoideoides* (Cambessèdes) A. C. Smith, *P. mexiae* A. C. Smith, and *P. hatschbachii* sp. nov. These three species have a long history of mistaken interpretation, dating back to the original description of *Salacia calypsoideoides* by Cambessèdes (1829), the basionym of the first of these species. The Muséum National d'Histoire Naturelle in Paris (P) houses two sheets bearing the name *Salacia calypsoideoides*, the first consisting of two branches, the right branch with a fixed label numbered 129 and the left branch without a label, herbarium label reading "Salacia calypsoideoides Cambess., Brésil—Province de Rio de Janeiro. Voyage d'Auguste de Saint-Hilaire, de 1816 à 1821. Catal B² n° 129" (F Neg. 35941). The second sheet has one branch and also a fixed label numbered 129, herbarium label reading "4. Salacia calypsoideoides" and another reading "Isotype." The sheet with two branches is a mixed collection, the left branch corresponding to *S. calypsoideoides*, and the right to *Peritassa mexiae* A. C. Smith; there is also a duplicate fragment in the Field Herbarium (F 935829) with two leaves, one from each branch on the original sheet. The second sheet at Paris, also corresponding to *S. calypsoideoides* and described by Cambessèdes (1829: 107) under the number 4, is proposed here as the lectotype of *Salacia calypsoideoides*.

Martius (1837) proposed the name *Calypso sylvestris*, based on a specimen that he had collected in Rio de Janeiro, that is clearly conspecific with

Salacia calypsoideoides, though the leaves are larger and more elliptic (F Neg. 23267) than the lectotype.

Salacia calypsoideoides is the basionym of *Raddia calypsoideoides* (Cambessèdes) Miers, a name established by Miers (1872) without study of the original material in Paris. Miers also described *Clercia clusiifolia* Miers, conspecific with *S. calypsoideoides*, based on a plant collected by Gomez in Rio de Janeiro and currently deposited at K, as well as *Clercia retusa* Miers, also conspecific with *S. calypsoideoides*, based on a specimen collected by Sellow (without locality) and also currently at K.

Miers transferred *Calypso sylvestris* to his genus *Sarcocampa*, as *Sarcocampa silvestris* (Martius) Miers, but the single specimen he examined, collected in Rio de Janeiro by his son, is conspecific with *Peritassa mexiae*.

The last author who treated these taxa was Smith (1940), who established the name *Peritassa calypsoideoides* (Cambessèdes) A. C. Smith without having seen either the Cambessèdes or Martius types aside from the photographs from the Field Negative Collection. Smith's morphological description of this species is based on the specimens collected by Sellow, and on other specimens collected in the states of São Paulo, Paraná, and Rio Grande do Sul. However, the taxon thus described as *Peritassa calypsoideoides* by Smith is another species: *Peritassa hatschbachii*, here described.

Smith transferred *Clercia retusa* Miers to the genus *Peritassa*, as *Peritassa retusa* (Miers) A. C. Smith, here considered to be conspecific with *P. calypsoideoides*. He also described *Peritassa mexiae* A. C. Smith, which corresponds to the circumscription of *Sarcocampa silvestris* by Miers (1872).

Peritassa calypsoideoides, *P. hatschbachii*, and *P. mexiae* are easily distinguished by leaf shape and consistency in the dry state, and the size of the inflorescences, even without reference to the characteristics of the flowers (Figs. 1, 2) and the geographic distributions.

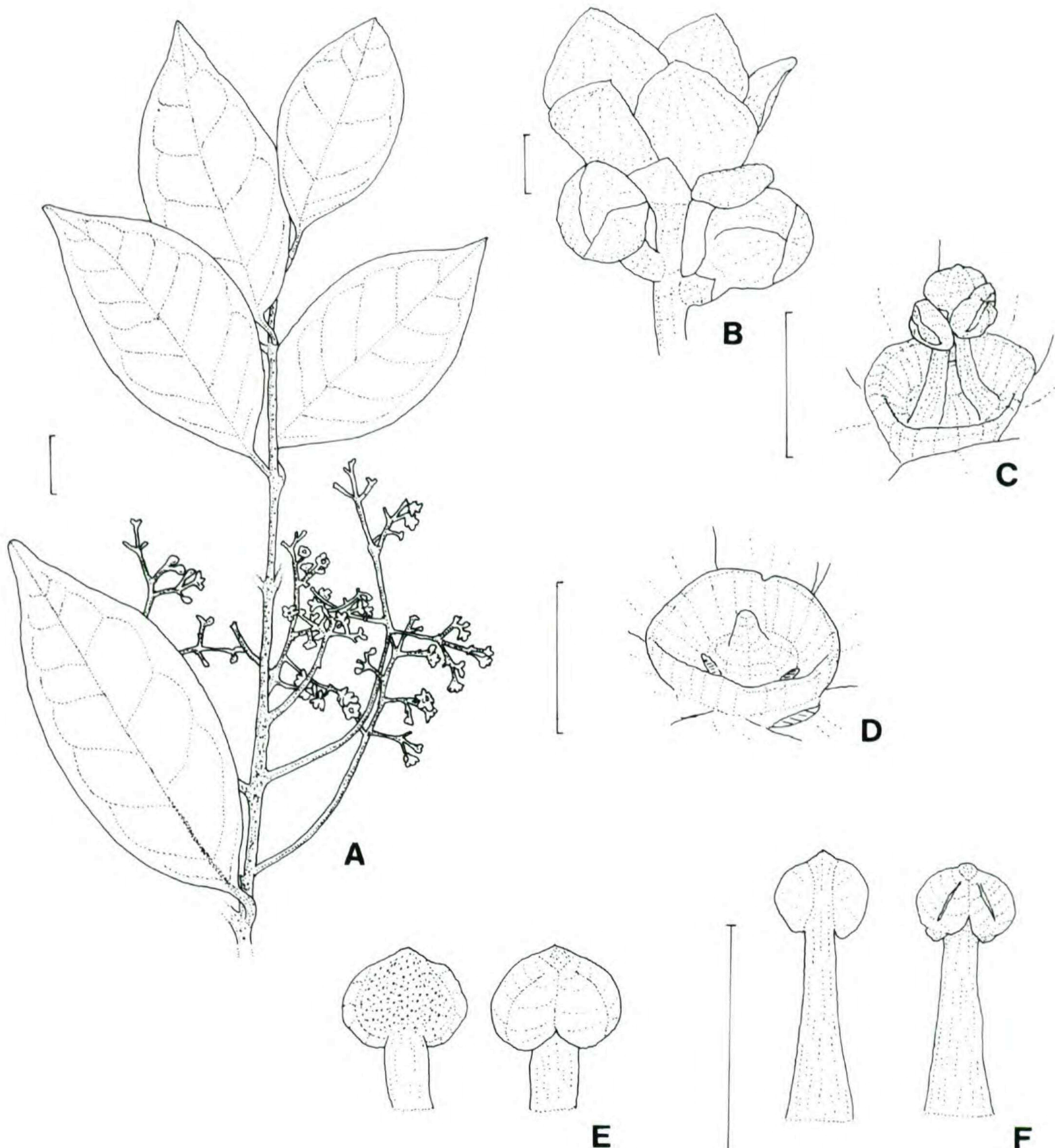


Figure 1. *Peritassa hatschbachii* Lombardi. —A. Branch aspect. —B. Lateral view of flower and buds. —C. Disc, androecium, and gynoecium, petals removed. —D. Disc and gynoecium, petals and stamens removed. —E. Abaxial and adaxial view of young stamen before anthesis. —F. Abaxial and adaxial view of stamen at anthesis. Scales: A = 1 cm, B–F = 1 mm. Drawings by J. A. Lombardi, based on Ribas 983.

Peritassa hatschbachii Lombardi, sp. nov. TYPE: Brazil. Paraná: São José dos Pinhais, Rio Arraial, 26 Jan. 1983, Hatschbach 46068 (holotype, MBM; isotypes, BM, CTES, MO, S, U not seen). Figure 1.

Haec species a *Peritassa calypsoide* inflorescentiis longioribus, staminibus non reflexis, dehiscentia quasi verticali, filamentis longioribus, a *P. laevigata* antherarum connectivis non insigniter productis, et a *P. mexiae* antherarum dehiscentia e positione differt.

Liana, glabrous, drying dark brown, branches terete, lenticellate, fissured, smooth, with seasonal growth marked by scale-like cataphylls. Leaves opposite, stipules 0.4–1.0 mm long, caducous, triangular, apiculate, entire or minutely erose; petiole 0.25–1.0 cm, subcylindric or canaliculate, fissured when dry; blade 2.9–13.6 × 1.1–7.5 cm, elliptic, chartaceous, the base cuneate, the apex acute and sometimes slightly emarginate, the margin entire or obscurely denticulate and thickened, often cream-

colored when dry, venation brochidodromous with veins prominulous on both sides. Inflorescence thyrsoid-paniculate, 0.9–6.3(–7.8) × (0.45–)1.3–5.2(–7.2) cm, with 10–180 flowers, axillary, often at leafless nodes; bracts 0.6–1.0 mm long, triangular, the margin entire, scarious; peduncle 0.2–3.4(–4.1) cm long, minutely lenticellate-punctulate, subcylindric to flattened; branches alternate or subopposite; pedicels 0.4–0.9 mm long, cylindric, articulate at base; bracteoles 2, at base of pedicel, triangular, 0.3–0.5 mm long. Flowers yellowish, (3.1–)3.5–4.4 mm wide at anthesis; sepals 5, 0.6–1.5 × 0.8–1.5 mm, elliptic, unequal, ± carnose, the margin entire, drying revolute; petals 5, 1.9–3.1 × 1.3–2.1 mm, obovate, ± carnose, ± ascending at anthesis, the margin minutely erose, scarious, plicate; disc short-tubular, slightly projecting, ca. 0.4 mm high, carnose, free from reproductive parts, the margin sinuate; stamens 3, ca. 1 mm long, in open flower appressed to gynoecium, the filaments flattened, slightly enlarged at base, the connective adaxially thickened, not surpassing the thecae or slightly so, drying brown, the anthers oblong, ca. 0.3 × 0.3 mm, slightly emarginate at base, basifix-ed, composed of two extrorse locules, dehiscing longitudinally by oblique slits slightly divergent at base; ovary slightly 3-lobed, 3-locular, with 2 subapical ovules at each locule, style ca. 0.25 mm long, central, cylindric; stigmas obscure. Mature drupe ca. 3.8 × 3.6 cm, subspherical, tuberculate, drying glaucescent or brown; seeds 2.3–3.4 × 1.1 × 0.9–1 cm, subreniform, triangular in section, testa smooth, firmly embedded in juicy endocarp, drying brown.

Vernacular. Bacupari-de-cipó, Fruta-de-macaco.

Peritassa hatschbachii occurs at altitudes of 20–900 m in rainforests of the southern Brazilian Atlantic coast, to as far north as southern Rio de Janeiro in mountain forests in the Serra dos Orgãos. This species can easily be distinguished from *Peritassa calypsoidea* by the larger flowers, the stamens not reflexed with longer filaments, the position of the dehiscence slits, the larger inflorescences, and by the consistently elliptic leaves with an acute apex. It can be distinguished from *Peritassa laevigata*, which is similar in leaf form and inflorescence size, by the connective not conspicuously exceeding the anther thecae, by the slightly oblique dehiscence of the anthers, and by the smaller mature fruits.

Paratypes. BRAZIL. Paraná: Ypiranga, 22 Mar. 1909, Dusén 8311 (S); Fortaleza, 26 Feb. 1910, Dusén 9561 (F, GH, L, MICH, S); Jaguariahyva, 3 Nov. 1910,

Dusén 10305 (GH, S); Volta Grande, 7 Aug. 1911, Dusén 12023 (S); Volta Grande, 17 Aug. 1911, Dusén 12056 (GH, S); Ypiranga, 28 Aug. 1911, Dusén 12094 (S); Carvalho, 13 Sep. 1911, Dusén 13000 (S); without locality, 1903, Dusén s.n. (S); Morretes, 3 Aug. 1975, Dziewa 15 (MBM); Guaratuba, Serra de Araçatuba, 31 Jan. 1960, Hatschbach 6712 (HB, L, MBM); Morretes, Grotta Funda, estrada da Graciosa, 12 Jan. 1964, Hatschbach 10836 (BHCB, HB, MBM); Quatro Barras, Cerne, 23 Feb. 1964, Hatschbach 10990 (MBM); Rio Branco do Sul, Serra do Caete, 10 Jan. 1978, Hatschbach 40694 (UB); Morretes, Marumbi, 4 Jan. 1979, Hatschbach 41837 (F, MBM); Morretes, Rio Bromado, 12 Feb. 1985, Hatschbach 48899 & Zelma (MBM, S); Guaraqueçaba, caminho do Paruquara, 23 Jan. 1991, Hatschbach 54897 et al. (CTES, HUEFS, MBM, W); Morretes, Manduíra, 1 Feb. 1996, J. M. Silva 1633 & Ribas (BHCB, MBM). **Rio de Janeiro:** Petrópolis, Meio da Serra, Serra da Estrela, 9 Mar. 1978, Martinelli 4034 (RB). **Rio Grande do Sul:** prope Porto Alegre, Canoas, 10 Nov. 1892, Malme 290b (S). **Santa Catarina:** Florianópolis, Morro do Ribeirão, 14 Feb. 1967, R. M. Klein 7159 (MBM); Florianópolis, Bom Retiro, Paulo Lopes, 19 Feb. 1973, R. M. Klein & Bresolin 10846 (P); Florianópolis, Morro Costa da Lagoa, 22 June 1967, R. M. Klein & Souza Sobrinho 7482 (MBM); Itajaí, Morro da Fazenda, 3 June 1954, Reitz & R. M. Klein 1863 (B, HB, L); Campo Alegre, Morro do Iquererim, 9 Jan. 1958, Reitz & R. M. Klein 6021 (S); Presidente Nereu, Sabiá, 29 Jan. 1958, Reitz & R. M. Klein 6364 (B, HB, L); Campo Alegre, Morro do Iquererim, 4 Feb. 1958, Reitz & R. M. Klein 6366 (B, GH, L, UC); Rio do Sul, Alto Matador, 16 Apr. 1958, Reitz & R. M. Klein 8724 (B, F, G, L, UC); Campo Alegre, margens do Rio Negro, 17 Jan. 1996, Ribas 983 et al. (BHCB, MBM). **São Paulo:** São Paulo, Parque do Estado, planta viva número 9, 20 Jan. 1932, Hoehne s.n. (F 895908, HB 9025); Santos, in ripa annuis Butuvira, 1 Dec. 1874, Mosén 3039a (C, S-2), 25 Jan. 1875, Mosén 3039b (S-3); Santos, 1875, Mosén 3039c (S).

Peritassa calypsoidea (Cambessèdes) A. C. Smith, Brittonia 3: 522. 1940. *Salacia calypsoidea* Cambessèdes, in A. Saint-Hilaire, A. Jussieu & Cambessèdes, Fl. Bras. Merid. 2: 107. 1829. *Tontelea calypsoidea* (Cambessèdes) Endlicher ex Walpers, Repert. Bot. Syst. 1: 400. 1842. *Raddia calypsoidea* (Cambessèdes) Miers, Trans. Linn. Soc. London 28: 396. 1872. TYPE: Brazil. Rio de Janeiro: without locality, 1816–1821, Saint-Hilaire 129 (lectotype, designated here, P [4. *Salacia calypsoidea*; isolectotype, F 935816]).

[Other original material, P [*Salacia calypsoidea* Cambessèdes] not seen (left branch) = F Neg. 35941, F 935829 (elliptic leaf), both specimens mixed in the sheets with *Peritassa mexiae*.]

Calypso sylvestris Martius, Flora 20: 96. 1837. *Salacia sylvestris* (Martius) Steudel, Nomencl. Bot., ed. 2, 2: 492. 1841. *Sarcocampa silvestris* (Martius) Miers, Trans. Linn. Soc. London 28: 409. 1872. TYPE: Brazil. Rio de Janeiro: "in sylvis ad Lagoa dos Indos,"

Martius Herbar. Flora Brasil. 97 (holotype, G = F Neg. 23267; isotype, W).

Clercia clusiifolia Miers [*clusiaefolia*], Trans. Linn. Soc. London 28: 381. 1872. TYPE: Brazil. Rio de Janeiro: without locality, Gomez 36 (holotype, K not seen; isotype, BM).

Clercia retusa Miers, Trans. Linn. Soc. London 28: 380. 1872. Syn. nov. *Peritassa retusa* (Miers) A. C. Smith, Brittonia 3: 524. 1940. TYPE: Brazil. Without locality, Sellow s.n. (holotype, K not seen; isotype, BM). Figure 2A–D.

Liana, glabrous, drying rusty brown; branches terete to subquadrangular, lenticellate, striate, smooth, with short prehensile lateral branches. Leaves opposite; stipules 0.4–0.6 mm long, triangular, entire, caducous; petioles 0.2–0.6 cm, canaliculate; blade 1.9–7.4(–12.4) × 0.5–5.4 cm, obovate or elliptic, chartaceous, the base attenuate or cuneate, the apex acute or rounded, the margin entire or obscurely crenulate and thickened; venation brochidodromous with veins immersed on both sides or prominulous on abaxial side. Inflorescence thyrsoid-paniculate, 0.6–2.9 × 0.6–3.1 cm, with 15–35 flowers, axillary; bracts 0.4–1.0 mm long, triangular, the margin entire or minutely erose or denticulate, scarious, carnosae; peduncles 0–15 mm long, covered by imbricate bracts at least at base, the peduncle and branches minutely lenticellate-punctulate, subcylindric; branches opposite or alternate; pedicels ca. 0.7 mm long, cylindric; bracteoles 2, at base of pedicel, triangular, ca. 0.5 mm. Flowers yellowish, 2.4–2.6 mm wide at anthesis; sepals 5, 0.8–1.2 × 0.8–1.5 mm, triangular or oblong, carnosae, the margin entire, scarious; petals 5, 1.4–1.6 × 1.0–1.3 mm, obovate, ± carnosae, deflexed at anthesis, the margin entire; disc short-tubular, 0.3–0.4 mm high, carnosae, free from reproductive parts, the margin sinuate or entire; stamens 3, ca. 0.6 mm long, in open flower exserted, the filaments flattened, the connective triangular, adaxially slightly thickened at base, not surpassing the thecae, drying brown, the anthers oblong, ca. 0.2 × 0.3 mm, dorsifix, reflexed, dehiscence extrorse by oblique slits strongly divergent at base in immature stamen, almost vertical in mature stamen; ovary slightly 3-lobed, 3-locular, with 2 subapical ovules in each locule, style ca. 0.15 mm long, central, cylindric; stigma obscure. Mature drupe ca. 5.3 × 3.3 × 3.3 cm, ellipsoid, drying dark brown, minutely pitted; seeds ca. 2.1 × 1 × 0.7 cm, ellipsoid.

Peritassa calypsoidea occurs in seashore vegetation for a distance of ca. 140 km between the cities of Rio de Janeiro and Cabo Frio, and in the Atlantic rainforests of southern Bahia. Only the great leaf size of *Martius* 97 and the poor condition of the

inflorescences made possible the incorrect interpretation of the sheet's photograph by Smith (1940), as this species and *P. hatschbachii* are very distinct and easily distinguished by the size of the flowers and inflorescences, as well as by flower and stamen characteristics. The two specimens examined from southern Bahia have leaves matching those of Martius's specimen in size and also the leaves of *P. hatschbachii*.

Additional specimens seen. BRAZIL Bahia: Uruçuca, nova estrada que liga Uruçuca à Serra Grande, a 28–30 km de Uruçuca, 16 July 1978, Mori et al. 10253 (RB); Una, estrada Una/São José, ca. 17 km ao W do município sede, 20 July 1994, Jardim et al. 498 (BHCB, CEPEC). Rio de Janeiro: perto de Maricá, Lagoa do Padre, 8 Sep. 1975, Araújo 764 & Peixoto 570 (BHCB, RB); Maricá, Lagoa do Padre, 8 Sep. 1950, Bautista 150 (RB-2); Maricá, Barra de Maricá, 5 Mar. 1985, V. L. G. Klein 261 et al. (BHCB, RB); Lagoa de Piratininga, 8 Nov. 1922, Kuhmann s.n. (BHCB 34486, RB 20868); Oct. 1832, Riedel 1084 (P, W); without date, Riedel s. n. (W.); Barra de Maricá, 25 Sep. 1978, Rizzini & Mattos 1036 (CTES); without locality, 1832, Lhotsky s.n. (G); Cabo Frio, 13 Oct. 1968, Sucre 3950 (BHCB, RB).

Peritassa mexiae A. C. Smith, Brittonia 3: 517. 1940. TYPE: Brazil. Minas Gerais: Viçosa, off road to São Miguel, 720 m, 22 Oct. 1930, Mexia 5206 (holotype, US not seen; isotypes, BM, F = F Neg. 40852, GH). Figure 2E–H.

Liana, glabrous, drying cinereous; branches subterete, lenticellate, striate, smooth, ± glaucous. Leaves opposite or subopposite; stipules ca. 0.7 mm long, caducous, triangular; petioles 0.4–1.1 cm, canaliculate; blade 4.2–19.5 × 1.9–8.8 cm, elliptic or (rarely) almost orbicular, coriaceous, the base cuneate or rounded, the apex acute, the margin entire or obscurely crenulate and thickened, drying minutely pitted on both sides, opaque, venation brochidodromous with veins immersed to plane adaxially, secondary veins prominulous abaxially. Inflorescence thyrsoid-paniculate, (0.8–)2.3–5.0 × (0.8–)2.8–7.1 cm, with 30–200 flowers, axillary, often at leafless nodes; bracts 0.5–1.0 mm long, triangular, denticulate at base, erose, sometimes distant from the ramifications; peduncles 0–6 mm long, striate, cylindric; branches alternate or subopposite; pedicels 1.9–2.5 mm long, cylindric, bracteoles 2, at base of pedicel, triangular, sometimes absent, ca. 0.4 mm long. Flowers yellowish, fragrant, 3.5–4.0 mm wide at anthesis; sepals 5, 0.6–1.4 × 0.7–1.1 mm, elliptic, ± carnosae, minutely papillose, cucullate, the margin fimbriolate; petals 5, 1.7–2.1 × 1.0–1.2 mm, elliptic, ± carnosae, ± deflexed at anthesis, the margin papillose, plicate; disc annular, short tubular, ca. 0.4 mm high, car-




Figure 2. A–D. *Peritassa calypsoidea* (Cambessèdes) A. C. Smith. —A. Lateral view of flower. —B. Disc, androecium, and gynoecium, petals removed. —C. Abaxial and adaxial view of young stamen before anthesis. —D. Abaxial and adaxial view of stamen at anthesis. E–H. *Peritassa mexiae* A. C. Smith. —E. Lateral view of flower. —F. Disc, androecium, and gynoecium, petals removed. —G. Abaxial and adaxial view of young stamen before anthesis. —H. Abaxial and adaxial view of stamen at anthesis. Scales: A–H = 1 mm. Drawings by J. A. Lombardi; A–D from Bautista 150; E–H from Lombardi 1305.

nose, free from reproductive parts, the margin sinuate or entire, projecting, yellow in dry or fresh state; stamens 3, ca. 0.9 mm long, in open flower exserted and reflexed, the filaments flattened, the

connective adaxially thickened, not surpassing the thecae, the anthers oblong, ca. 0.15×0.4 mm, slightly emarginate in base and apex, basifix, dehiscence extrorse by very strongly almost horizontal

divergent apical slits; ovary slightly 3-lobed, 3-locular, with 1 subapical ovule in each locule, style ca. 0.3 mm long, central, cylindric; stigmas obscure, yellow in dry and fresh state. Mature drupes not seen, immature 0.9–1.3 × 0.6–1.1 × 0.5–1.0 cm, subspherical, the epicarp apparently thin, drying blackish to glaucescent; seeds fusiform, 1–3.

This species is restricted to rainforests of the Atlantic coast of Brazil and inland to the State Park of Rio Doce in Minas Gerais. It is easily distinguished from *P. calypsooides* and *P. hatschbachii* by the leaves drying cinereous, the long-pedicelled flowers, the spreading petals, and by the noteworthy almost horizontal dehiscence of the anthers.

Additional specimens seen. BRAZIL. **Espírito Santo:** Linhares, canal da Lagoa Juparanã, 13 Aug. 1965, Belém 1584 (UB). **Minas Gerais:** Caratinga, Estação Biológica de Caratinga, 20 June 1988, Costa et al. 524 (BHCB), 30 Sep. 1995, Gomes 285 (BHCB); Marliéria, Parque Estadual do Rio Doce, 16 July 1993, Lombardi 351 (BHCB, SPF); Marliéria, Parque Estadual do Rio Doce, margens da Lagoa da Barra, 17 July 1996, Lombardi 1305 (BHCB, ESA, MBM, SPF). **Rio de Janeiro:** Rio de Janeiro, Corcovado, 4 Aug. 1959, Duarte 4950 (HB, RB [as 10 Oct. 1942]); without locality, Saint-Hilaire 129a (P not seen = F Neg. 35941 [right branch], F 935829 [orbicular leaf]); Iguassu, "Sarcocampa silvestris," Miers s.n. (BM).

KEY TO THE SPECIES OF *PERITASSA* IN SOUTHERN BRAZIL

- 1a. Shrubs, in cerrado and rocky grasslands *P. campestris* (Cambessèdes) A. C. Smith
- 1b. Lianas, shrubs, or trees, in forests and seashore vegetation.
 - 2a. Connective apiculate and exceeding thecae.
 - 3a. Petals 0.8–1.3 mm long, pedicel 1.0–1.5 mm long, leaf margin conspicuously crenulate, inflorescence (0.7–)1.1–2.4 cm long, with ca. 25–50 flowers [Minas Gerais, Rio de Janeiro, São Paulo] . . .
 - *P. flaviflora* A. C. Smith

3b. Petals 2.3–3.3 mm long, pedicel (1.3–)2.1–3.7 mm long, leaf margin entire or crenulate, inflorescence (0.7–)2.0–5.3 (–9.5) cm long, with ca. 30–200 flowers [Espírito Santo, Rio de Janeiro] . . .

- *P. laevigata* (Hoffmannsegg ex Link) A. C. Smith

- 2b. Connective not or only slightly exceeding thecae.
 - 4a. Filaments conspicuously exceeding border of disc.
 - 5a. Anther locules dehiscing by slightly divergent slits; ovary locules consistently with two ovules . . .
 - *P. hatschbachii*
 - 5b. Anther locules dehiscing by very strongly divergent slits, almost apical; ovary locules consistently with one ovule . . .
 - *P. mexiae*
- 4b. Filaments not exceeding the border of disc . . .
 - *P. calypsooides*

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